

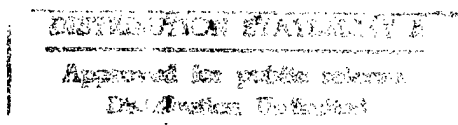
NAVAL WAR COLLEGE  
Newport, R.I.

**MILITARY OCEAN TERMINALS  
WHO NEEDS THEM?**

by  
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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal view and are not necessarily endorsed by the Naval War College or the Department of the Navy.

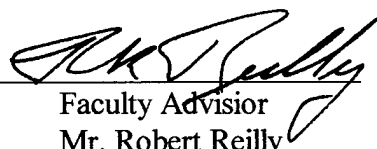


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**ABSTRACT OF**  
**MILITARY OCEAN TERMINALS, WHO NEEDS THEM!**

As the single manager of the Defense Transportation System, TRANSCOM's mission is to provide DoD with transportation services as the honest broker between supporting and supported CINCs. TRANSCOM must ensure it can deliver the service its customers expect in the amount planned and in the time frame allotted. The CINCs' warfighting capabilities depend on TRANSCOM minimizing the CINCs' "window of vulnerability" while force capability arrives at its place of employment. It is in TRANSCOM's interest that they do not inhibit mission accomplishment.

TRANSCOM has prescribed that DoD organic self-sufficiency is essential to initial surge deployments. TRANSCOM has not fully extended this policy to their water ports and is heavily dependent on commercial ports for mission success. With the closing of Military Ocean Terminals Bayonne and Oakland, that dependency is increased. Should the commercial sector fail, or be unable, to support TRANSCOM for whatever reasons, mission failure is probable and the trust in jeopardy.

Alternatives are available. Retain sufficient DoD organic port capability to ensure a Major Regional Conflict deployment is accommodated with Defense Transportation System assets. Utilizing ammunition ports, expanding capabilities at active Military Ocean Terminals, and establishing a Military Ocean Terminal within existing DoD infrastructure offer opportunities to improve Defense Transportation System self-sufficiency. Military Ocean Terminals are the guarantee TRANSCOM needs for guaranteed mission accomplishment. Fully capable and always available, Military Ocean Terminals are not obsolete. They are indispensable.

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## MILITARY OCEAN TERMINALS WHO NEEDS THEM?

### THOU SHALT CLOSE

*Commissioner Kling: "...I move that the commission ...adopts the following recommendation: Close Bayonne Military Ocean Terminal. "*

*Comm. Dixon: "Second the motion ...Counsel will call the roll. "*

*Counsel: "Mr. Chairman, the vote is six ayes and two nays. "*

*Comm. Dixon: "The Motion is agreed to. "*

*Comm. Kling: "I move that the commission ...adopt the following recommendation: Close Oakland Army Base..."*

*Comm. Dixon: "Counsel call the role. "*

*Counsel: "Mr. Chairman, there are five aye and three nays. "*

*Comm. Dixon: "...and Oakland's closed. "1*

With these actions, the 1995 Base Realignment and Closure Commission recommended, and the President subsequently approved, the closure of the last two CONUS, non-ammunition Military Ocean Terminals (MOTs). Are MOTs unnecessary, as the commission concluded? No, MOTs are not operationally obsolete but operationally indispensable. Without them the mission of successfully deploying U.S. combat forces is in jeopardy.

The Commission's rationale focused on the monetary issues, citing an expected saving of over \$10 million annually. This focus was hardly surprising given both the BRAC Commission's charter and an admittedly bloated water port bureaucracy.<sup>2</sup> However, the commission's justification was predicated on the ability of the commercial sector to absorb the workload left behind by the MOTs. In the commission's words, "There are sufficient commercial port facilities on the East and Gulf Coasts [and West] to support power projection requirements with a minimal

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<sup>1</sup>Base Realignment and Closure Commissions, meeting minutes, 23 Jun. 1995 as quoted in MTMC, Eastern Area, Public Affairs Office, "BRAC Panel Deliberates on Bayonne, Oakland", BRAC Bullets, 26 Jun. 1995, 2.

<sup>2</sup>A subsequent scathing GAO study (GAO/NSIAD-96-60) specifically cited a "heavily staffed worldwide port infrastructure" as a cause for inflated transportation costs to DoD customers.

loss to operational capability. Bayonne [and Oakland] provide the Army with few military capabilities that cannot be accomplished at commercial ports.”<sup>3</sup>

In routine operations, this is most likely true. However, Military Ocean Terminals were not established for routine operations. Their true value lies in their capacity to accommodate a large volume of military cargo on a short-notice basis, in essence, a surge deployment. Certainly the BRAC Commission is correct in concluding that water ports are costly to operate, but whether the commercial sector has the ability, or willingness, to absorb the military mission of surge deployment is less certain than the Commission declared. Commercial port availabilities and capabilities are not guaranteed.

As the ultimate customers of the Defense Transportation System (DTS) services, the CINCs should view this potential lack of support with concern. They have every expectation that the DTS will fully deliver combat power to its place of employment within the planned time window. Anything less would delay the CINCs’ mission accomplishment and increase their “window of vulnerability”. This was a matter of great concern to U.S. commanders during Desert Shield. To ensure mission success and customer satisfaction, the DTS must ensure that it has access to sufficient and capable water port facilities. CONUS Military Ocean Terminals provide that guarantee, with deployment capacity and surge reaction time that commercial terminals can not or will not duplicate. Present plans to downsize CONUS water port infrastructure by closing Military Ocean Terminals jeopardize the ability of U.S. forces to deploy quickly, completely, and in line with CINC expectations. In a major deployment, MOTs are operationally indispensable.

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<sup>3</sup>U.S. Dept. of Defense, Base Closure and Realignment Report (Washington: March 1995). 5-11.

## TRANSCOM'S MISSION

The requirement for a large, quick surge deployment of U.S. forces has not diminished since the Desert Shield experience. In his testimony before a House Committee, Mr. Norman Rabkin, Associate Director, Military Operations and Capabilities Issues, Government Accounting Office, stated that, "DoD has identified extensive mobility requirements for its sealift and airlift forces. During major regional conflicts, the requirement calls for moving as much cargo in 8 weeks as was moved during the first 6 months of the Persian Gulf War."<sup>4</sup> This echoes especially true when considering the reduced forward presence of U.S. forces. In a Major Regional Conflict scenario, an increasing percentage of U.S. forces will deploy from CONUS, and of those deploying forces, ninety to ninety-five percent will deploy their equipment by sealift through a water terminal.

In charge of satisfying this deployment requirement is the United States Transportation Command (TRANSCOM). As DoD's single manager for transportation, TRANSCOM is tasked with "providing common-user airlift, sealift, surface transport, *terminal services* and commercial air, land, and sea transport, as needed to support the deployment, employment, and sustainment for U.S. forces on a global basis ..." (emphasis added).<sup>5</sup> TRANSCOM's policy is to rely on DoD organic transportation assets for initial surge deployment requirements, approximately C-day through C+15.<sup>6</sup> The JCS Mobility Requirements Study Bottom Up Review Update (MRS-BURU) validated this policy citing, "The immediate surge shipping mission requires

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<sup>4</sup>Norman Rabkin. "Statement," U.S. Congress, House, Subcommittee on Readiness and Committee on Armed Services, Strategic Mobility Serious Problems Remain in U.S. Deployment Capabilities, Hearings (Washington: U.S. Govt. Print. Off., February 1996), 1.

<sup>5</sup>Secretary of Defense Joint Staff, Unified Command Plan, (Washington: January 1996), reprinted in NWC 4033, 8.

<sup>6</sup>Telephone conversation with Col. G. Danish, Deputy J-5, United States Transportation Command, Scott AFB, IL., 6 Jan 1997.

organic shipping to ensure the immediate reinforcing units can be deployed expeditiously.”<sup>7</sup> Lift self-sufficiency for the initial stages of surge deployment is TRANSCOM’s goal.

Desert Shield demonstrated that TRANSCOM did not have the wherewithal to comply with this policy. TRANSCOM has aggressively attacked the DTS shortfalls over the past several years to correct this situation, spending billions in acquisition and mobility enhancement funding to procure aircraft, build new or convert existing vessels into Large Medium Speed Roll-on/Roll-off ships, purchase additional DoD rail cars, improve DoD installation transportation infrastructure (forts, camps, and bases), and develop documentation and intransit visibility data systems, which in many cases duplicate the commercial sector’s capabilities. TRANSCOM has directed all of this effort toward building a self-sufficient DTS. However, little attention was paid to non-ammunition water ports. The long term effect is a potentially significant bottle neck at the ports as DoD requirements grow, organic lift becomes more readily available, but DoD port capabilities decrease.

To address this potential bottleneck, TRANSCOM has turned towards the commercial sector. A heavy dependence on commercial ports for expanded port capability, although contrary to its policy of self-sufficiency, provides TRANSCOM with an immediately available solution. TRANSCOM is aware of the potential dangers. Gen. Rutherford, USAF, USCINCTRANS, commented that, “..we will become more dependent on commercial ports. But I think we will continue to get the priority to go in and use what we need.”<sup>8</sup> His Deputy, LTG. Wykle, USA, echoed a similar sentiment saying, “Yes. The commercial sector is part of our force structure and so we take it for granted that it’s there. But we have no institutionalized way of assessing the

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<sup>7</sup>Joint Chiefs of Staff, Mobility Requirements Study Bottom-Up Review Update (Washington: 28 March 95), IV-B-I(a).

<sup>8</sup>James Mathews, General Robert L. Rutherford, Commander in Chief United States Transportation Command, An Oral History (Scott AFB, IL., October 1996), 28.



readiness of those commercial carrier's assets and they would certainly resist our doing so. We have to pretty much accept that they will be able to provide us with what we are asking for."<sup>9</sup> Neither statement projects confidence that the commercial sector will positively respond to TRANSCOM's requirements when needed. The prerequisite for a successful DTS water terminal deployment operation is the guarantee that ports of sufficient capability are available when required. Until recently, the commercial ports have repeated assurances to TRANSCOM that they are ready and willing to handle DoD port business, convincing TRANSCOM that its water port policy is prudent. However, TRANSCOM's reliance on the commercial sector is not a safe solution. It risks disappointing a demanding, high profile CINC customer.

### **TYPES OF CONUS PORTS AND CURRENT STATUS**

Before discussing the differences between Military Ocean Terminals and commercial terminals, it is necessary to define terms since several types of relationships exist between the military and commercial port operations.

Types: Military Traffic Management Command (MTMC), as a component command of TRANSCOM, manages CONUS port operations for DoD. MTMC port operations can be arranged into four distinct categories by the ownership of the terminal facilities.

1- Official Military Ocean Terminals are owned by the Army.

Bayonne, Oakland, and Sunny Point, NC (MOTSU) are the only true MOTs in CONUS. MOTSU is currently an ammunition only port.

2- Unofficial MOTs (not normally called MOTs) are owned by DoD (non-Army elements)

The Ports of Charleston, Norfolk and NWS Concord (as the west coast ammunition only port) are in this category.

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<sup>9</sup>James Mathews, Lieutenant General Kenneth R. Wykle, USA, Deputy Commander in Chief, United States Transportation Command (Scott AFB, IL., August 1995), 39.

3- Long Term Lease of commercial facilities (L/T Lease ports). MTMC has a permanent presence and leases commercial port facilities for an indefinite period.

The Ports of Beaumont and Tacoma are in this category.

4-Short Term Lease of commercial facilities. MTMC temporarily expands into commercial facilities only long enough to complete a deployment mission.

Any port facility capable of accommodating a MTMC deployment would fit here.

The element differentiating these port categories is the control MTMC exercises over the port. In official and unofficial MOTs, MTMC exerts significant control. In categories 3 and 4, MTMC's control is progressively diminished. At category, 4 MTMC exerts only limited control as a short term tenant of a commercial port.

Official and unofficial MOTs are similar; similar enough to be joined. We can assume for analysis that should DoD require the services, any interservice support disagreements would not foul a deployment operation. Also, L/T Lease ports are included as a second option in throughput analysis since the long term lease and long term relationships with the local port authority make the use of MTMC L/T Lease ports nearly certain. There are some differences between L/T Lease ports and MOTs which require caveats.

Status: MTMC's "Port Look Study Report" designated 16 water terminals as "strategic seaports".<sup>10</sup> Five of these are MOTs, but with the closing of Bayonne and Oakland, that number will decrease to three. Of these three, MOTSU is dedicated to ammunition and is currently not designated to process unit equipment. That leaves only 2 Military Ocean Terminals, Norfolk and Charleston, to guarantee DoD's self-sufficiency. In addition, both ports are located on the East Coast. No MOTs remain on the west coast. Of the remaining ports:

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<sup>10</sup>The ports are Bayonne, Beaumont, Charleston, NWS Concord, Galveston, Hampton Roads, Jacksonville, Long Beach, Morehead City, New York/New Jersey, Oakland, Port Hueneme, Savannah, Sunny Point, Tacoma and Wilmington.

- Three are L/T Leased ports (one east coast, one gulf coast, and one west coast).
- Two are dedicated ammunition ports (one east coast, one west coast).
- Eight are short term leased ports (east and west coasts).<sup>11</sup>

Should MTMC require, any commercial port willing to lease property of sufficient size and capability can become a strategic port. Timely establishment of port control is the only variable.

Bayonne and Oakland have yet to close their doors permanently. Current estimates have them closing anytime between 1997 and 1999. Once that occurs, the DoD will exercise full control only in Norfolk, Charleston, MOTSU, and NWS Concord. All other water terminals, including L/T Lease ports, will be subject to some degree of port authority control or commercial port influence.

### **COMMERCIAL TERMINAL ISSUES**

To accommodate the enormous quantity of unit equipment that must flow through CONUS ports during a surge deployment, MTMC plans to expand its port capacity by leasing short term port facilities from the commercial sector. Despite the positive relationship between MTMC, TRANSCOM, and the commercial sector, commercial port availability for short term lease is not certain. Also, the capabilities and policies of commercial terminals, plus the time required for MTMC to establish a port operation, limit the usefulness of the commercial facilities to the DTS. These limitations will directly or indirectly impact the DTS's ability to support a CINC's deployment expectations.

Availability: During Desert Shield, TRANSCOM had little difficulty securing commercial port space to deploy U.S. forces.<sup>12</sup> The world economy was sluggish and excess capacity was

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<sup>11</sup>"Port Look Study" lists Hampton Roads as the strategic port even though MTMC's permanent tidewater presence is in Norfolk. Newport News is a short term port option however. Norfolk is available and is located on DoD property.

<sup>12</sup>James Mathews and Cora Holt, So Many, So Much, So Far, So Fast (Washington: Joint History Office, Office of the Chairman of the Joint Chiefs of Staff, 1992), 172.

available for lease in commercial ports. The world economy is now booming and the commercial sector has trimmed excess capacity to improve its international competitive position. In the changing business environment, large, short-notice deployments may find commercial ports refusing or unable to assist within DoD's planned 48 hour time frame as DoD cargo competes head to head with commercial terminals' bread and butter traffic.<sup>13</sup>

The number of vessels requiring port services has increased along both coasts, and congestion within commercial ports requires users to book vessel berthing in advance. The Port of Oakland, for example, requires 7 day notice<sup>14</sup> and Morehead City, NC 72 hours.<sup>15</sup> The Department of the Army representative at the BRAC hearings, Mr. Rick Brown, explained that, "[port] operators are asking for 10 to 12 days to clear staging and berthing areas for priority military traffic."<sup>16</sup> Additionally, the length of time vessels can remain on berth is limited, as tight schedules necessitate a commitment to arrival and departure times with little flexibility for unanticipated schedule changes.

Staging area is similarly a concern. Without surge military cargo, commercial terminals are reporting significant terminal congestion. The Port Authority of New York/New Jersey, for example, reported terminal workloads at 106% of capacity. One terminal was reported at 130%. One solution used to relieve commercial congestion was a successful petition to the Military Ocean Terminal, Bayonne to use the MOT as a temporary storage and staging area. Requiring commercial terminals to vacate even a portion of their facilities forces commercial operators to

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<sup>13</sup>Information paper from Bernie Romano, MTMC, Eastern Area, Directorate of Plans, Port Planning Orders/Port Readiness Committee. 22 February 1996. TRANSCOM is using 48 hours for planning.

<sup>14</sup>Memorandum from Chief, War Plans Division, Chief of Staff for Operations and Plans, Department of the Army to Director, Army Basing Study. 24 February 1995.

<sup>15</sup>Letter from Chief, Division of Ports, Maritime Administration to Deputy Chief of Staff for Plans, Military Traffic Management Command, 7 January 1997.

<sup>16</sup>Base Realignment and Closure Commissions, meeting minutes, 23 Jun. 1995 as quoted in MTMC, Eastern Area, Public Affairs Office, "BRAC Panel Deliberates on Bayonne, Oakland", BRAC Bullets, 26 Jun. 1995, 2.

find alternate staging in an already congested port; disrupting (and potentially losing) their normal clientele's business. Military port operators unanimously agree that expecting a commercial operator to accomplish this within a 48 hour window is not realistic.

Additionally, one of the customers negatively impacted by the disruption in the commercial terminal service would likely be TRANSCOM, whose follow-on and sustainment logistics uses normal commercial channels for movement into theater.

Ms. Liburdi, Director of the Port Department of the Port Authority of New York and New Jersey described the port availability situation along the eastern seaboard this way, "[Commercial] Ports will work with the military but we need time. That doesn't mean ports wouldn't be available in emergencies but that with the increase in commercial operations in recent years, they can't unilaterally accept military cargo or the disruption a deployment would cause their business."<sup>17</sup> Commercial ports have little incentive, in fact a disincentive, to lease their facilities to DoD, interrupt their operations, and inconvenience their clientele.

To hedge their risk, TRANSCOM has requested the Maritime Administration (MARAD) to negotiate Port Planning Orders (PPOs) with individual ports, identifying the most militarily useful facilities. Under 46 CFR Part 340, the Government and commercial ports may formally coordinate planning, but commercial ports are not necessarily forced to participate unless a national emergency is imminent or declared. Some ports, such as Houston, refuse to participate as a strategic port.<sup>18</sup> Other ports, such as Charleston, have placed limits on availability and facilities the Government may lease on short term notice. MARAD provides a monthly status report to TRANSCOM which delineates the current status of strategic ports' ability and willingness to

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<sup>17</sup>Interview with Ms. Lillian Liburdi, Director of the Port Department of the Port Authority of New York and New Jersey as quoted in MTMC, Eastern Area, Public Affairs Office, "BRAC Panel Deliberates on Bayonne, Oakland", BRAC Bullets, 26 June 1995, 7.

<sup>18</sup>Interview with Mr. Bob Friedman, Chief, Terminals Operations, Military Traffic Management Command, Eastern Area, Bayonne, NJ: 20 December 1996. Houston cites difficulties with the Desert Shield arrangements as the basis of its refusal.

comply with the active PPOs. Outright Government requisition is always available, but with its negative impact on business, this option is politically unpopular and therefore very unlikely.

Capabilities: Once leased, the capabilities of commercial facilities can fall short of military needs. Military deployments require facilities, special handling, labor, and documentation support that are unique to military deployments and not normally part of a commercial terminal's resource base. Requirements include:

- covered storage for cargo staging and preparation. This is especially critical for installing corrosion preventative materials and protecting weather sensitive cargoes.

- secure storage for sensitive and classified cargo. Commercial terminals are not equipped to this level of security and its personnel are not qualified to handle sensitive and classified materials. The potential for compromise is significant.

- physical security of the port operations area. Commercial port security is adequate for normal commercial operations but is inadequate for the heightened security posture of a military deployment. MTMC ports are desirable and vulnerable targets for terrorist and other threats, as they consolidate military equipment in one location.<sup>19</sup> Unhappy with commercial protection efforts during Desert Shield, TRANSCOM turned to better trained, more reliable military security resources to augment commercial port security.<sup>20</sup> Unfortunately, port security augmentation assets are resident in the reserves, limited in their availability, and not always welcomed by commercial terminal security personnel because of labor issues.

- helicopter landing facilities. Commercial ports rarely have a certified helo landing area in or near the port. The Port of New York/New Jersey, for example, has none. Flight operations in the quantity and time frame needed for a major deployment are not considered safe.

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<sup>19</sup>David Grohoski , "The Vulnerabilities of U.S. Strategic Ports..." , Unpublished Research Paper, NWC, Newport, RI: 1996, 8.

<sup>20</sup>James Mathews and Cora Holt, 205.

-heavy lift equipment. Commercial ports predominately transport containers.

Consequently their cranes, material handling equipment, and weight limitations reflect this concentration on intermodal conveyance. The commercial port equipment is not particularly suited to heavy or oversized military vehicles such as tanks and combat engineering equipment. In addition, staging area and wharves may not possess the physical strength and resilience to support military cargo, especially tracked vehicles, without sustaining significant damage.

-qualified and reliable labor force. Commercial labor pools are not specifically trained to handle and secure military equipment. Because of the specialized nature and the inherent danger of shipping military equipment, there are prescribed methods of handling, lifting, placing, securing and documenting it onboard the vessel. A cadre of trained, experienced, and licensed personnel - such as those trained at MOTs and MTMC L/T Lease ports - are required to commence military loadouts safely and with minimal down time. Additionally, multiple-ship, 24 hour operations, in addition to normal commercial port workload, can drain the qualified labor pool in the commercial port area. Large labor pools such as Los Angeles can likely accommodate surge requirements; however, smaller labor pools such as Wilmington and Morehead City are easily exhausted, as demonstrated during Desert Shield.<sup>21</sup> Military and Civil Service labor are alternatives, but are seldom welcome inside commercial ports for work rule reasons.<sup>22</sup> Labor disputes (strikes/walkouts/lockouts) are also a concern, but in the event of a national emergency it is unlikely labor disputes will disrupt military traffic. During Desert Shield, labor disputes occurred but were set aside until the deployment operations subsided. For Military Operations

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<sup>21</sup>James Mathews and Cora Holt, 173. It should be noted that the International Longshoremen's Association exerted great effort to recruit volunteers from other ports to compensate for local labor shortages.

<sup>22</sup>Interview with Mr. Bob Friedman, Chief of Terminal Operations, MTMC, Eastern Area, Bayonne, NJ: 20 December 1996. At L/T lease ports or MOTs, the issue is less contentious. Training of active duty and reserve personnel is easier at a MOT or L/T port.

Other Than War and other less vital deployment operations, the threat of a labor-management interruption of port services still exists.

Port Authorities are aware of their capability shortfalls and point to sound business practices as reasons not to expend scarce capital on military readiness issues. MTMC is aware that short term leased ports may not possess the wherewithal to fully support deploying units.<sup>23</sup>

Policy: Although MTMC leases commercial port facilities, these facilities are still governed by the rules of the port. There are many policies with which MTMC must comply that might influence a deployment operation; one policy that has a major impact on nearly all deployments is the handling of ammunition. Commercial terminals are reluctant to allow ammunition through their terminals. This includes MTMC L/T Lease ports. As ports are normally in congested areas surrounded by large populations, the explosive arc generated by unit basic load ammunition is a safety and public relations issue for port management. Additionally, local laws may prohibit or limit the transport of ammunition through jurisdictions adjacent to the commercial ports. Deploying units insist that their unit basic load ammunition and any other required ammunition accompany them, especially if the vessel's arrival in-theater is potentially opposed.<sup>24</sup> TRANSCOM is addressing this impasse with Turbo-CADs exercises, designed to accustom commercial ports to handling containerized ammunition. Exercise lessons learned currently described the commercial industry's performance as "inconsistent", a polite euphemism for reluctance or outright refusal.<sup>25</sup> This could potentially affect the type of units that could deploy through a short term leased port.

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<sup>23</sup>James Mathews and Cora Holt, 173.

<sup>24</sup>MOTSU's and NWS Concord's mission is to transport bulk ammunition into theater, too late for the initial requirements of the deploying unit.

<sup>25</sup>Concerns over ammunition movement is TRANSCOM's prime motivation for infrastructure improvements at NWS Concord.



Time requirements: To establish a short term port operation, MTMC requires time to place contract for services and equipment, to set up communications and documentation systems, and most importantly, to establish a personnel presence at the port. Reserves make up approximately 55% of MTMC port operation forces. Their activation is critical to establishing expanded port operations. USCINCTRANS has acknowledged this concern saying, "General Shali [CJCS] has acknowledged repeatedly the absolute need for reserve mobility personnel in the early stages of any major contingency to support the transportation side of the house. We're going to have to get those people on board within about 48 hours if our forces are to move out on time."<sup>26</sup> History shows an inability to meet this short a deadline. Selected reserve call up in Desert Shield occurred over 2 weeks following the start of deployments. Reservist volunteers were authorized and employed to "stick [their] finger in the dike and hold it until the reserves came."<sup>27</sup> MTMC has since developed "Tiger Teams", borrowing permanent MTMC personnel from their MOTs and L/T Leased facilities to plug the dike. This rob-Peter-to-pay-Paul technique is intended only to establish a port operation, not conduct it for a lengthy duration. It will require Herculean efforts to ensure that short term leased facilities are manned and operational for deployment within 48 hours. "Clearly, the ability of MTMC to expand rapidly to handle extra workload for a mobilization depends on having the reservists available at the start."<sup>28</sup> Short term leased MTMC ports may not be available if personnel are not.

In summary, the commercial port facilities that MTMC and TRANSCOM are counting on for DTS deployments may not be available, may not have the capabilities, may exclude special

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<sup>26</sup>James Mathews. General Robert L. Rutherford, Commander in Chief United States Transportation Command, An Oral History (Scott AFB, IL.: October 1996), 29.

<sup>27</sup>LTC Spring, USA, MTMC, Western Area as quoted in John Brinkerhoff, United States Army Reserve in Operation Desert Storm Port Operations. (Alexandria, VA: Defense Technical Information Center, 3 May 1991), 3.

<sup>28</sup>John Brinkerhoff, United States Army Reserve in Operation Desert Storm Port Operations. (Alexandria, VA: Defense Technical Information Center, 3 May 1991), 5.

commodities, and may receive insufficient MTMC personnel to operate effectively. Congressional and Port Authority officials have voiced concern that commercial ports may be unable to provide the required support when needed. Sen. Frank Lautenberg stated, "[Commercial] Ports can't meet the Pentagon's 48-hour timetable. They can't meet security requirements and can't provide the skilled labor force."<sup>29</sup> According to Ms. Liburdi of NY/NJ Port Authority, "Commercial ports are not ready for the special requirements of military cargo such as armaments, tracked vehicles, staging and restaging to meet changing military priorities. Ports would fall short in meeting the needs for a skilled labor force, certain safety requirements and the time line of urgent military shipments."<sup>30</sup>

### **MOT CAPABILITIES**

Military Ocean Terminals and L/T Leased ports are not constricted by the same limitations as commercial terminals. Vessel berths are controlled by MTMC and available when required. Sufficient staging area exists to prestage several vessels worth of surge unit equipment on a no-notice basis. Other capabilities include:

- available covered and secured storage areas.
- comprehensive physical security resources, with preplanned contingency responses to quickly modify security as required.
- resident heavy lift capability and helo receiving facilities.
- trained and experienced laborers, assigned by the unions and dedicated to military ocean terminal requirements.

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<sup>29</sup>Sen. Frank Lautenberg as quoted in MTMC, Eastern Area, Public Affairs Office, "Political Leaders Testify for MOTBY", BRAC Bullets, 17 May 1995, 6.

<sup>30</sup>Ms. Lillian Liburdi as quoted in MTMC, Eastern Area, Public Affairs Office, "Political Leaders Testify for MOTBY", BRAC Bullets, 17 May 1995, 6.

-willingness to handle ammunition and manage its explosive arc issues. All MOTs handle small arms ammunition routinely and have standing exemptions ready for short-notice activation for higher classes of explosives.<sup>31</sup> There is less sensitivity to ammunition movements provided the ammunition, and its arc, are confined within a DoD installation.

-rapid reaction and quick establishment of deployment operations. MOTs and MTMC L/T Leased facilities employ full time terminal employees engaged in routine terminal operations. As the MRS-BURU observed, "A great deal of benefit can be realized by keeping an active presence at strategic seaports."<sup>32</sup>

MOTs also bring unique advantages to the table that assist in deployment operations.

-Safe Haven areas for enroute classified, sensitive or high value shipments which are experiencing difficulties.

-layberthing for Military Sealift Command operated vessels. MOT layberth charges are five times less than commercial layberth rates.<sup>33</sup>

-improved command, control, communication, and documentation capabilities as system nodes are located at the ports.

-customized facilities, designed to receive, stage, and load military cargo.

-waiver and permit availability, with quick reaction time to prepare transportation documentation for unprepared units.

-24 hour port access. Surprisingly, this is not a given at commercial ports.

-billeting and messing for terminal personnel and reservists.

-training facilities for active duty, reserve, and civilian members in water port operations.

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<sup>31</sup>Interview with Mary Jane Plevritis, 1301st Major Port Command, Cargo Operations, MOT Bayonne, NJ: 20 December 1996.

<sup>32</sup>Joint Chiefs of Staff, Mobility Requirements Study Bottom-Up Review Update (Washington: 28 Mar 95). E-I-D-4.

<sup>33</sup>Interview with Mary Jane Plevritis, 1301st Major Port Command, Cargo Operations, MOT Bayonne, NJ: 20 December 1996.

The decisive factor is control of the port. It is analogous to renting vice owning one's house. Renting presents significant problems if modifications or expansion to the house are necessary. Alterations can only commence when parameters are negotiated, responsibilities assigned, and agreements reached. Owning the house allows for greater assurance that it will be modified and ready to accommodate a surge deployment. When needed, MOTs can provide that guarantee of availability and readiness that TRANSCOM needs to assure its customers that combat power will deploy as planned and as advertised.

### **DEPLOYMENT IMPACT**

After examining the DTS mission, the limitations of MTMC expansion into commercial ports, and the capabilities of MOTS and MTMC L/T Lease facilities, it is appropriate to look at the impact these factors will have on the initial, 15 day, surge deployment capabilities of the DTS.

If all goes as planned in MTMC's "PortLook Study Report" and commercial ports are available, the DTS will have adequate water port capacity to accommodate a Major Regional Contingency East (MRC-East) or West (MRC-West) within prescribed time frames. But what if commercial facilities are not available, do not have the capability, or refuse to participate? Or, what if there is insufficient prior warning for MTMC to mobilize reservists or port augmentation forces other than its Tiger Teams? The CINCs will still expect the DTS services in full and on time. In a worst case scenario, the DTS must deploy the forces using its own resources without assistance from the commercial sector, in keeping with TRANSCOM's self-sufficiency policy for initial surge.

For this rudimentary look at DTS water port self-sufficiency, two "worse case" scenarios are constructed - the first assumes only Military Ocean Terminals are available and the second adds MTMC's L/T Lease facilities. Table 1 shows the percent of the 15 day requirement

completed by C +15.<sup>34</sup> Appendix A has detailed spreadsheets and assumptions. The model is not intended as an exact prediction of throughput over time but rather to indicate where bottlenecks are likely to occur if commercial port expansion is not available.

PORT CATEGORIES	MRC-EAST	MRC-WEST
ALL PORTS AVAILABLE	100%	100%
<b>MOTs ONLY</b>	<b>53%</b>	<b>0%</b>
<b>MOTS AND L/T LEASE PORTS</b>	<b>80%</b>	<b>39%</b>

Table 1

In all cases , insufficient port throughput capacity prevents deployments from completing the requirement within the 15 day time line. Of particular concern is the west coast, where the closing of Military Ocean Terminal, Oakland leaves no DoD owned port facilities for MRC-West deployments.<sup>35</sup> Even with Tacoma and Oakland (in its proposed future L/T Lease port configuration), less than half the deployment square footage will depart on time. MTMC compensated for this short fall by relying on east coast ports, partly to augment west coast port shortfalls and partly because the preponderance of potential DTS customers are located in the southeastern U.S.. However, east and gulf port loadouts add approx. 5 days to the vessel transit time, including a transit through a soon to be non-U.S controlled choke point in the Panama Canal, not a desirable circumstance but perhaps necessary in response to the lack of DoD west coast port capacity.

The MRC-East situation is somewhat better. Norfolk and Charleston can accommodate over half the requirement. With the addition of Beaumont as a L/T Lease facility, a majority of the deployment equipment will depart on time. Jacksonville is the east coast's wild card. As a Marine

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<sup>34</sup>Headquarters, Military Traffic Management Command, PortLook Study Report (Falls Church, VA: 30 September 1996). Appendix D. Data for 15 day deployment requirements was derived from Appendix D.

<sup>35</sup>Pt Hueneme is fully occupied with USN and USMC requirements during the first 15 days making it functionally unable to support DTS requirements.

facility located on commercial property performing a Marine Preposition Ship mission, this facility is routinely borrowed by MTMC to perform deployments such as Desert Shield. With Jacksonville added to the L/T Lease roster, all MRC-East requirements are satisfied.

In summary, MTMC expansion into the commercial sector is important to both MRC-East and MRC-West scenarios. Without it, the supported CINC may not receive the support in the amount planned and in the time expected.

### **POSSIBLE ALTERNATIVES**

To decrease the port capacity shortfalls, TRANSCOM may wish to explore the following alternatives which offer improved DTS self sufficiency without the cost of developing new ports or funding stand-alone organizations.

Alternative #1 - Use Ammo Ports for Unit Equipment: As the primary departure point of bulk ammunition on their respective coasts, both MOTSU's and NWS Concord's ammunition mission supercede any other tasking. The ammunition mission commences in conjunction with unit deployments but not on the same time table. There is a significant time gap as ammunition is requisitioned, prepared, and dispatched to the port. The gap is sufficiently sized to allow the ports to load unit equipment in the 15 day surge window with no adverse impact to the ammunition mission. The port facilities are available and capable.<sup>36</sup> MOTSU demonstrated the capability to load unit equipment by deploying elements of the 4th Marine Expeditionary Brigade in the initial stages of Desert Shield. However, neither MOTSU nor Concord has received formal designation as an alternate port for handling unit equipment on a not to interfere basis with the ammunition mission. Adding ammunition ports to the scenarios yields improvements to throughput.

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<sup>36</sup>Telephone conversation with Col. Parker, Commander, 1303 Major Port Command, Sunny Point, NC, 3 January 1997 and Telephone conversation with CDR Recla, Deputy Commander, 1302nd Major Port Command, Oakland, CA, 3 January 1997.

PORT CATEGORIES	MRC-EAST	MRC-WEST	PCT CHNG
<b>MOTs and Ammo Ports</b>	<b>80%</b>	<b>20%</b>	<b>+27%/+20%</b>
<b>MOTs, L/T lease, and Ammo Ports</b>	<b>100%</b>	<b>59%</b>	<b>+20%/+20%</b>

Table 2

Table 2 shows improved capacity across the board. The MRC-East scenario is sufficiently improved to allow the DTS to guarantee self-sufficiency if either Beaumont or Jacksonville is available for deployment. The MRC-West scenario is still weak, but one west coast DoD owned port is now available to participate in the deployment operations. Appendix B lists detailed data.

Alternative #2 - Negotiate Increased Capacity at MOTs: If the use of several geographically spread MOTs is prohibitively costly, perhaps expanded, more capable facilities would suffice. Both Norfolk and Charleston have room for expansion.

Norfolk terminal is collocated with Navy facilities. According to the Port Director, adequate space and pier facilities exist without infringing upon or competing with Navy operations. Three berthing spaces are possible with adequate labor and resources to accommodate the increased workload.<sup>37</sup>

Charleston also has excess DoD-owned capacity. With the closing of most Navy activities in the area, sufficient infrastructure exists to work three ships simultaneously. Charleston is presently working on expanding the Interservice Support Agreements with the Navy to guarantee access to additional pier and staging space when needed.<sup>38</sup> Table 3 show the effects to MOT capability if the present MOTs expand their capability to 3 berths. Appendix C refers.

PORT CATEGORIES	MRC-EAST	MRC-WEST	PCT INC.
<b>EXPANDED MOTs ONLY</b>	<b>70%</b>	<b>0%</b>	<b>+17%/ 0%</b>

Table 3

<sup>37</sup>Telephone conversation with Mr. B. Richards, Director Terminals Department, FISC, Norfolk, VA, 2 January 1997.

<sup>38</sup>Telephone conversation with CDR Crawford, Dep. CDR, 1304th Major Port Command, Charleston, SC, 2 January 1997.

The addition of a MTMC L/T Lease port to this scenario will guarantee DTS self-sufficiency on the east coast. However, if MOTs expand beyond 3 berths, with adequate support from local labor and contractors, east coast MOTs could achieve 100% self-sufficiency without augmentation from L/T Lease ports. In the west coast situation, no improvement is seen.

Alternative #3 - Reestablish a West Coast MOT: With the closing of MOT Oakland, no DoD owned port facility will exist on the west coast except Pt Hueneme. Expanding NWS Concord is a possibility, but the ammunition mission will force unit equipment deployment elsewhere once ammunition arrives at the port. Some west coast MOT capability is required, possibly at a DoD owned location such as San Diego, CA or Bremerton/Everett, WA. The development of a permanent presence integrated into an existing supporting structure such as a Naval Base might reduce costs sufficiently to reexamine the readiness expense of maintaining MOT capability. A terminal operation may find it less expensive to rely on support functions resident in a Naval Base organization, such as billeting, messing, routine security, fire and safety, administration, and facility maintenance, than to perform these support functions as a stand alone command. One west coast MOT, capable of loading two ships simultaneously, would significantly ease DTS dependence on east coast ports to compensate for west coast shortfalls.

The effects of implementing these three alternatives are summarized in Table 4 and detailed in Appendix D.

PORT CATEGORIES	MRC-EAST	MRC-WEST
<b>MOTs, L/T LEASE, AND ALTERNATIVES</b>	<b>100%</b>	<b>78%</b>

Table 4

The West Coast still depends upon commercial ports or MTMC east coast ports for support, but its self-sufficiency numbers are greatly improved. This was accomplished using



minimal new construction and existing or excess infrastructure within DoD to create additional port capacity.

By implementing some or all of these alternatives, the DTS can improve its chances of mission success and the CINC's probabilities of receiving support on time and as planned.

## CONCLUSION

TRANSCOM's DoD mission places it as the intermediary between the supporting and supported CINC. As the honest broker of transportation services, TRANSCOM must ensure that it can deliver the service in the amount required and in the time frame allotted. The CINCs must trust TRANSCOM to minimize the "window of vulnerability" as force capability arrives in theater and builds up at its place of employment. It is in TRANSCOM's interest to ensure that nothing betrays this trust. TRANSCOM has decreed that DoD organic self-sufficiency is essential to preserving this trust, but they have not fully extended this logic to their water ports.

TRANSCOM is heavily dependent on commercial ports for mission success. The closing of Military Ocean Terminals Bayonne and Oakland increases that dependency. Should the commercial sector fail to support or not be able to support TRANSCOM for whatever reason, mission failure is probable and the trust in jeopardy. The solution is straight forward. Retain enough organic port capability to ensure that deployment operations for a Major Regional Conflict is accommodated with Defense Transportation System assets. This capability is found in the Military Ocean Terminal. Guaranteed available and fully ready to support a TRANSCOM directed deployment, Military Ocean Terminals are not obsolete. They are indispensable.

## MRC-EAST REQUIREMENT

## MRC-WEST REQUIREMENT

C-DAY	M/TONS	SQFT	:	C-DAY	M/TONS	SQFT
0			:	0	0	0
1	73333	329999	:	1	100000	450000
2	146666	659997	:	2	200000	900000
3	219999	989996	:	3	300000	1350000
4	293332	1319994	:	4	400000	1800000
5	366665	1649993	:	5	500000	2250000
6	439998	1979991	:	6	600000	2700000
7	513331	2309990	:	7	700000	3150000
8	586664	2639988	:	8	800000	3600000
9	659997	2969987	:	9	900000	4050000
10	733330	3299985	:	10	1000000	4500000
11	806663	3629984	:	11	1100000	4950000
12	879996	3959982	:	12	1200000	5400000
13	953329	4289981	:	13	1300000	5850000
14	1026662	4619979	:	14	1400000	6300000
15	1099995	4949978	:	15	1500000	6750000

## SCENARIO ASSUMPTIONS:

- \*1. 15 DAY SURGE REQUIREMENT IS: MRC-EAST 1.1 MIL M/TONS  
MRC-WEST 1.5 MIL M/TONS
- \*2. 1 M/TON EQUALS 4.5 SQFT.
- \*3. PORT THROUGHPUT EQUALS 60K SQFT PER SHIP PER DAY.
- \*4. AVERAGE VESSEL REQUIRES 2 DAYS TO LOAD.
- 5. WORKLOAD ARRIVES IN PORT IN CONSTANT FLOW (VICE PEAK WORKLOADS).
- 6. 1 DAY SEPARATION BETWEEN VESSELS DEPARTING FULL AND THE NEXT ARRIVING EMPTY.

# MRC-EAST - MOTS ONLY

## SQFT WORKLOAD

C-DAY	SHIP AVAIL	NORFOLK WORK	CHARL WORK	BEAU WORK	WORLOAD REMAINING
C+0	0	0	0	:	4949978
1	1	60000	60000	:	4829978
2	2	120000	120000	:	4589978
3	1	60000	60000	:	4469978
4	2	120000	120000	:	4229978
5	1	60000	60000	:	4109978
6	2	120000	120000	:	3869978
7	1	60000	60000	:	3749978
8	2	120000	120000	:	3509978
9	1	60000	60000	:	3389978
10	2	120000	120000	:	3149978
11	1	60000	60000	:	3029978
12	2	120000	120000	:	2789976
13	1	60000	60000	:	2669976
14	2	120000	120000	:	2429976
15	1	60000	60000	:	2309976

PCT COMP: 53%

# MRC-EAST - MOTS AND LONG TERM LEASE PORTS

## SQFT WORKLOAD

C-DAY	SHIP AVAIL	NORFOLK WORK	CHARL WORK	BEAU WORK	WORLOAD REMAINING
C+0	0	0	0	:	4949978
1	1	60000	60000	60000	: 4769978
2	2	120000	120000	120000	: 4409978
3	1	60000	60000	60000	: 4229978
4	2	120000	120000	120000	: 3869978
5	1	60000	60000	60000	: 3689978
6	2	120000	120000	120000	: 3329978
7	1	60000	60000	60000	: 3149978
8	2	120000	120000	120000	: 2789978
9	1	60000	60000	60000	: 2609978
10	2	120000	120000	120000	: 2249978
11	1	60000	60000	60000	: 2069978
12	2	120000	120000	120000	: 1709978
13	1	60000	60000	60000	: 1529978
14	2	120000	120000	120000	: 1169978
15	1	60000	60000	60000	: 989978

PCT COMP: 80%

# MRC-WEST MOTS ONLY

## SQFT WORKLOAD

C-DAY	SHIP C+0 AVAIL	NO MOT AVAIL	PT HUEN WORK	TACOMA WORK	OAKLAND WORK	WORKLOAD REMAINING
0	0	0	N U			6750000
1	1	0	A S			6750000
2	2	0	V M			6750000
3	1	0	Y C			6750000
4	2	0	W			6750000
5	1	0	O			6750000
6	2	0	R			6750000
7	1	0	K			6750000
8	2	0	L			6750000
9	1	0	O			6750000
10	2	0	A			6750000
11	1	0	D			6750000
12	2	0				6750000
13	1	0				6750000
14	2	0				6750000
15	1	0				6750000

PCT COMP: 0%

# MRC-WEST MOTS AND LONG TERM LEASE PORTS

## SQFT WORKLOAD

C+0	SHIP AVAIL	NO MOT AVAIL	PT HUEN WORK	TACOMA WORK	OAKLAND WORK	WORKLOAD REMAINING
0	0		N U			6750000
1	1		A S	60000	60000	6630000
2	2		V M	120000	120000	6390000
3	1		Y C	60000	60000	6270000
4	2		W	120000	120000	6030000
5	1		O	60000	60000	5910000
6	2		R	120000	120000	5670000
7	1		K	60000	60000	5550000
8	2		L	120000	120000	5310000
9	1		O	60000	60000	5190000
10	2		A	120000	120000	4950000
11	1		D	60000	60000	4830000
12	2			120000	120000	4590000
13	1			60000	60000	4470000
14	2			120000	120000	4230000
15	1			60000	60000	4110000

PCT COMP: 39%

# MRC-EAST - MOTS AND AMMO PORTS

## SQFT WORKLOAD

C-DAY	SHIP AVAIL	NORFOLK WORK	CHARL WORK	MOTSU WORK	WORLOAD REMAINING
C+0	0	0	0	:	4949978
1	1	60000	60000	60000	: 4769977
2	2	120000	120000	120000	: 4409975
3	1	60000	60000	60000	: 4229974
4	2	120000	120000	120000	: 3869972
5	1	60000	60000	60000	: 3689971
6	2	120000	120000	120000	: 3329969
7	1	60000	60000	60000	: 3149968
8	2	120000	120000	120000	: 2789966
9	1	60000	60000	60000	: 2609965
10	2	120000	120000	120000	: 2249963
11	1	60000	60000	60000	: 2069962
12	2	120000	120000	120000	: 1709960
13	1	60000	60000	60000	: 1529959
14	2	120000	120000	120000	: 1169957
15	1	60000	60000	60000	: 989956

PCT COMP: 80%

# MRC-EAST - MOTS, L/T LEASE, AND AMMO PORTS

## SQFT WORKLOAD

C-DAY	SHIP AVAIL	NORFOLK WORK	CHARL WORK	BEAU WORK	MOTSU WORK	WORLOAD REMAINING
C+0	0	0	0			4949978
1	1	60000	60000	60000	60000	4709978
2	2	120000	120000	120000	120000	4229978
3	1	60000	60000	60000	60000	3989978
4	2	120000	120000	120000	120000	3509978
5	1	60000	60000	60000	60000	3269978
6	2	120000	120000	120000	120000	2789978
7	1	60000	60000	60000	60000	2549978
8	2	120000	120000	120000	120000	2069978
9	1	60000	60000	60000	60000	1829978
10	2	120000	120000	120000	120000	1349978
11	1	60000	60000	60000	60000	1109978
12	2	120000	120000	120000	120000	629978
13	1	60000	60000	60000	60000	389978
14	2	120000	120000	120000	120000	0
15	1	60000	60000	60000	60000	0

PCT COMP: 100%



# MRC-WEST MOTS AND AMMO PORTS

## SQFT WORKLOAD

C-DAY	SHIP C+0 AVAIL	NWS CONCORD	PT HUEN WORK	TACOMA WORK	OAKLAND WORK	WORKLOAD REMAINING
0	0	0	N U			6750000
1	1	60000	A S			6690000
2	2	120000	V M			6570000
3	1	60000	Y C			6510000
4	2	120000	W			6390000
5	1	60000	O			6330000
6	2	120000	R			6210000
7	1	60000	K			6150000
8	2	120000	L			6030000
9	1	60000	O			5970000
10	2	120000	A			5850000
11	1	60000	D			5790000
12	2	120000				5670000
13	1	60000				5610000
14	2	120000				5490000
15	1	60000				5430000

PCT COMP: 20%

# MRC-WEST MOTS, L/T LEASE, AND AMMO PORTS

## SQFT WORKLOAD

C+0	SHIP AVAIL	CONCORD WORK	PT HUEN WORK	TACOMA WORK	OAKLAND WORK	WORKLOAD REMAINING
0	0	0	N U			6750000
1	1	60000	A S	60000	60000	6570000
2	2	120000	V M	120000	120000	6210000
3	1	60000	Y C	60000	60000	6030000
4	2	120000	W	120000	120000	5670000
5	1	60000	O	60000	60000	5490000
6	2	120000	R	120000	120000	5130000
7	1	60000	K	60000	60000	4950000
8	2	120000	L	120000	120000	4590000
9	1	60000	O	60000	60000	4410000
10	2	120000	A	120000	120000	4050000
11	1	60000	D	60000	60000	3870000
12	2	120000		120000	120000	3510000
13	1	60000		60000	60000	3330000
14	2	120000		120000	120000	2970000
15	1	60000		60000	60000	2790000

PCT COMP: 59%

# MRC-EAST - EXPANDED MOTS ONLY

## SQFT WORKLOAD

C-DAY	SHIP AVAIL	NORFOLK WORK	CHARL WORK	BEAU WORK	WORLOAD REMAINING
C+0	0	0	0	:	4949978
1	1	60000	60000	:	4829978
2	2	120000	120000	:	4589978
3	2	120000	120000	:	4349978
4	2	120000	120000	:	4109978
5	2	120000	120000	:	3869978
6	2	120000	120000	:	3629978
7	2	120000	120000	:	3389978
8	2	120000	120000	:	3149978
9	2	120000	120000	:	2909978
10	2	120000	120000	:	2669978
11	2	120000	120000	:	2429978
12	2	120000	120000	:	2189976
13	2	120000	120000	:	1949976
14	2	120000	120000	:	1709976
15	2	120000	120000	:	1469976

PCT COMP: 70%

# MRC-WEST EXPANDED MOTS ONLY

## SQFT WORKLOAD

C-DAY	SHIP C+0 AVAIL	NO MOT AVAIL	PT HUEN WORK	TACOMA WORK	OAKLAND WORK	WORKLOAD REMAINING
0	0	0	N U			6750000
1	1	0	A S			6750000
2	2	0	V M			6750000
3	1	0	Y C			6750000
4	2	0	W			6750000
5	1	0	O			6750000
6	2	0	R			6750000
7	1	0	K			6750000
8	2	0	L			6750000
9	1	0	O			6750000
10	2	0	A			6750000
11	1	0	D			6750000
12	2	0				6750000
13	1	0				6750000
14	2	0				6750000
15	1	0				6750000

PCT COMP: 0%

# MRC-EAST - ALL ALTERNATIVES

## SQFT WORKLOAD

C-DAY	SHIP AVAIL	NORFOLK* WORK	CHARL* WORK	BEAU WORK	MOTSU WORK	WORLOAD REMAINING
C+0	0	0	0			: 4949978
1	1	60000	60000	60000	60000	: 4709978
2	2	120000	120000	120000	120000	: 4229978
3	1	120000	120000	60000	60000	: 3869978
4	2	120000	120000	120000	120000	: 3389978
5	1	120000	120000	60000	60000	: 3029978
6	2	120000	120000	120000	120000	: 2549978
7	1	120000	120000	60000	60000	: 2189978
8	2	120000	120000	120000	120000	: 1709978
9	1	120000	120000	60000	60000	: 1349978
10	2	120000	120000	120000	120000	: 869978
11	1	120000	120000	60000	60000	: 509978
12	2	120000	120000	120000	120000	: 29978
13	1	120000	120000	60000	60000	: 0
14	2	120000	120000	120000	120000	: 0
15	1	120000	120000	60000	60000	: 0

PCT COMP: 100%

\*NORFOLK AND CHARLESTON EXPANDED TO THREE BERTHS

# MRC-WEST ALL ALTERNATIVES

## SQFT WORKLOAD

C-DAY	SHIP C+0 AVAIL	NWS CONCORD	WEST COAST MOT	PT HUEN WORK	TACOMA WORK	OAKLAND WORK	WORKLOAD REMAINING
0	0	0		N U			6750000
1	1	60000	60000	A S	60000	60000	6510000
2	2	120000	120000	V M	120000	120000	6030000
3	1	60000	60000	Y C	60000	60000	5790000
4	2	120000	120000	W	120000	120000	5310000
5	1	60000	60000	O	60000	60000	5070000
6	2	120000	120000	R	120000	120000	4590000
7	1	60000	60000	K	60000	60000	4350000
8	2	120000	120000	L	120000	120000	3870000
9	1	60000	60000	O	60000	60000	3630000
10	2	120000	120000	A	120000	120000	3150000
11	1	60000	60000	D	60000	60000	2910000
12	2	120000	120000		120000	120000	2430000
13	1	60000	60000		60000	60000	2190000
14	2	120000	120000		120000	120000	1710000
15	1	60000	60000		60000	60000	1470000

PCT COMP: 78%

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